Forestland Interpretations

Forestland interpretations are important to good management. The management of trees begins with an understanding of the soil where they grow or are to be grown. Some soils are very suitable for growing wood crops; others barely support tree cover. Different tree species may vary in production on the same soil.

Forestland interpretations should be used to assist land users in planning, installing, and maintaining forestland management systems.

Forest Management and Productivity

The Forestland Management and Productivity tables presents information about suitable for producing timber for each soil map unit. Management concerns, which include hand planting, mechanical planting, use of harvesting equipment, mechanical site preparation (surface), roads (natural surface), erosion on roads and trails, off-road/trail erosion, soil rutting, log landings, seedling survival, are listed by ratings of:

- Not Limited (0.00)
- Slightly Limited (0.01 to 0.30)
- Moderately Limited (0.31 to 0.60)
- Limited (0.61 to 0.99)
- Very Limited (1.00)

Information on potential productivity includes plant competition, common trees, site index, productivity class, and trees to plant.

Management Concerns

PLANT COMPETITION - A rating of slight indicates little or no competition from other plants; moderate indicates that plant competition is expected to hinder the development of the fully stocked stand of desirable trees; and severe means that plant competition is expected to prevent the establishment of a desirable stand unless the site is intensively prepared, weeded, or otherwise managed for the control of undesirable plants.

POTENTIAL PRODUCTIVITY - This is discussed under the ordination class symbol.

COMMON TREES - Trees that generally occur on the soil are listed regardless of economic importance.

SITE INDEX AND PRODUCTIVITY CLASS - These are discussed under ordination class symbol.

TREES TO PLANT - Trees that are suitable for commercial wood production and that are adapted to the soil.

HAND PLANTING – ratings are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, a water table, and ponding. Ratings indicate the expected difficulty of hand planting, which includes the proper placement of root systems of tree seedlings to a depth of up to 12 inches, using standard hand planting tools. It is assumed that necessary site preparation is completed before seedlings are planted.

MECHANICAL PLANTING – ratings are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, a water table, and ponding. Ratings indicate the expected difficulty using a mechanical planter, which includes proper placement of root systems of tree seedlings to a depth up to 12 inches. It is assumed that necessary site preparation is completed before seedlings are planted.

USE OF HARVEST EQUIPMENT – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, and ponding. Ratings indicate the suitability for operating harvest equipment for off –road transport or harvest of logs and/or wood products by ground-based wheeled or tracked equipment.

MECHANICAL SITE PREPARATION (SURFACE) – ratings are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, a water table, and ponding. The part of the soil from the surface to a depth of about 12 inches is considered in the ratings. Ratings indicate the suitability of using surface-altering soil tillage equipment to prepare the site for planting or seeding.

ROADS (NATURAL SURFACE) – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads on which trucks transport logs and other wood products from the site.

EROSION (ROAD/TRAIL) – ratings are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails.

EROSION (OFF-ROAD/OFF-TRAIL) – ratings are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance.

SOIL RUTTING – ratings are based on a water table, rock fragments on or below the surface, surface texture, depth to a restrictive layer, and slope. Ratings indicate the hazard or risk of ruts in the uppermost soil surface layers by operation of forest equipment. Soil displacement and puddling (soil deformation and compaction) may occur simultaneously with rutting.

LOG LANDINGS – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, ponding, flooding, and the hazard of soil slippage. Ratings indicate the suitability of the soil at the forest site to serve as a log landing and allows the efficient and effective use of equipment for the temporary storage and handling of logs.

SEEDLING SURVIVAL – ratings are based on flooding, ponding, a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. Ratings indicate the impact of soil, physiographic, and climatic conditions on the survivability of newly established tree seedlings.

See the National Forestry Manual, Subpart B for criteria used in rating management concerns.

This subsection includes:
- **(a) Forest Management (one or two tables)**

Moniteau County, Missouri
Forest Productivity

| Map symbol and soil name | Potential productivity | | | Trees to manage |
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
BeB2:				
Peridge-----------------	black walnut--------	---	0	black walnut,
	eastern redcedar----	50	57	northern red oak,
	northern red oak----	70	57	shortleaf pine,
	shortleaf pine------	70	114	white oak
	white oak----------	---	0	
BoB:				
Goss-------------------	---	---	---	---
BoE:				
Goss-------------------	black oak----------	---	0	green ash,
	blackjack oak-------	---	0	sweetgum,
	post oak-----------	---	0	tuliptree
	shortleaf pine------	---	0	
	white oak----------	60	43	
BoF:				
Goss-------------------	black oak----------	---	0	green ash,
	blackjack oak-------	---	0	sweetgum,
	post oak-----------	---	0	tuliptree
	shortleaf pine------	---	0	
	white oak----------	60	43	
CaA:				
Willowfork-------------	---	---	---	---
CgB:				
Creldon----------------	---	---	---	---

Moniteau County, Missouri
Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
CgB2:				
Creldon----------------	---	---	---	---
CrB:				
Creldon----------------	---	---	---	---
CrB2:				
Creldon----------------	---	---	---	---
Dg:				
Dunning----------------	American sycamore---	---	0	American sycamore,
	black willow--------	---	0	baldcypress, pin
	boxelder------------	---	0	oak, swamp white
	eastern cottonwood--	100	129	oak, sweetgum
	pin oak-------------	95	86	
	red maple-----------	---	0	
	swamp white oak-----	---	0	
	sweetgum------------	95	114	
Du:				
Dunning----------------	American sycamore---	---	0	American sycamore,
	black willow--------	---	0	baldcypress, pin
	boxelder------------	---	0	oak, swamp white
	eastern cottonwood--	100	129	oak, sweetgum
	pin oak-------------	95	86	
	red maple-----------	---	0	
	swamp white oak-----	---	0	
	sweetgum------------	95	114	
EdB:				
Crestmeade-------------	---	---	---	---

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
EdB2:				
Crestmeade--------------	---	---	---	---
EnB:				
Eldon------------------	---	---	---	---
FrA:				
Triplett---------------	---	---	---	---
FrB:				
Hartville--------------	white oak-----------	55	43	eastern cottonwood, pin oak, tuliptree, white oak
GaB:				
Gasconade--------------	blackjack oak-------	---	0	eastern redcedar
	chinkapin oak-------	40	29	
	eastern redcedar----	27	29	
	post oak-----------	---	0	
GaE:				
Gasconade--------------	blackjack oak-------	---	0	eastern redcedar
	chinkapin oak-------	40	29	
	eastern redcedar----	27	29	
	post oak-----------	---	0	
GaF:				
Gasconade--------------	blackjack oak-------	---	0	eastern redcedar
	chinkapin oak-------	40	29	
	eastern redcedar----	27	29	
	post oak-----------	---	0	

Moniteau County, Missouri
Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
GsB:				
Glensted----------------	---	---	---	---
GsB2:				
Glensted----------------	---	---	---	---
Hu:				
Sturkie----------------	American sycamore---	80	86	American sycamore,
	eastern cottonwood--	100	129	black walnut,
	northern red oak----	80	57	eastern
	white oak-----------	70	57	cottonwood,
				northern red oak,
				white oak
Ls:				
Lindside----------------	black walnut--------	---	0	black oak, black
	northern red oak----	86	72	walnut, eastern
	red maple-----------	---	0	white pine,
	tuliptree-----------	95	100	Japanese larch,
	white ash-----------	85	57	northern red oak,
	white oak-----------	85	72	Norway spruce,
				shortleaf pine,
				tuliptree, white
				ash, white oak
McB:				
McGirk----------------	white oak-----------	55	43	eastern cottonwood,
				green ash, pecan,
				pin oak, sweetgum,
				white oak

Moniteau County, Missouri
Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
McB2:				
McGirk-----------------	white oak----------	55	43	eastern cottonwood, green ash, pecan, pin oak, sweetgum, white oak
Me:				
Melvin-----------------	American elm--------	---	0	American sycamore, eastern cottonwood, loblolly pine, pin oak, sweetgum, willow oak
	cherrybark oak------	91	114	
	common hackberry----	---	0	
	eastern cottonwood--	101	129	
	green ash----------	---	0	
	hickory------------	---	0	
	pin oak------------	99	100	
	red maple----------	---	0	
	sweetgum-----------	89	100	
On:				
Leta-------------------	black willow--------	---	0	eastern cottonwood, green ash, pecan, silver maple, sweetgum
	eastern cottonwood--	90	100	
RaA:				
Moniteau---------------	pin oak------------	70	57	black willow, eastern cottonwood, green ash, pin oak, silver maple, sweetgum, white oak, willow oak

Moniteau County, Missouri
Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
Rw:				
Haynie------------------	American sycamore---	110	157	black walnut,
	black walnut--------	---	0	eastern
	eastern cottonwood--	110	157	cottonwood, green
	green ash-----------	---	0	ash
Sa:				
Carr--------------------	American sycamore---	---	0	American sycamore,
	eastern cottonwood--	90	100	eastern cottonwood
Sb:				
Sarpy-------------------	eastern cottonwood--	95	114	American sycamore, eastern cottonwood, silver maple
Sc:				
Sarpy-------------------	eastern cottonwood--	95	114	American sycamore, eastern cottonwood, silver maple
SeA:				
Crestmeade-------------	---	---	---	---
SeB:				
Crestmeade-------------	---	---	---	---
SeB2:				
Crestmeade-------------	---	---	---	---

Moniteau County, Missouri
Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
UnB2:				
Union-------------------	black oak-----------	58	43	northern red oak,
	northern red oak----	62	43	scarlet oak,
	shortleaf pine------	53	86	shortleaf pine,
	white oak-----------	50	43	white oak
UnB3:				
Union-------------------	black oak-----------	58	43	northern red oak,
	northern red oak----	62	43	scarlet oak,
	shortleaf pine------	53	86	shortleaf pine,
	white oak-----------	50	43	white oak
UnC2:				
Union-------------------	black oak-----------	58	43	northern red oak,
	northern red oak----	62	43	scarlet oak,
	shortleaf pine------	53	86	shortleaf pine,
	white oak-----------	50	43	white oak
UnC3:				
Union-------------------	black oak-----------	58	43	northern red oak,
	northern red oak----	62	43	scarlet oak,
	shortleaf pine------	53	86	shortleaf pine,
	white oak-----------	50	43	white oak
UnD2:				
Wrengart---------------	black oak-----------	---	0	black oak, northern
	northern red oak----	70	57	red oak, white oak
	white oak-----------	66	43	

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
UtB2:				
Union--------------------	black oak-----------	58	43	northern red oak,
	northern red oak----	62	43	scarlet oak,
	shortleaf pine------	53	86	shortleaf pine,
	white oak-----------	50	43	white oak
UtC2:				
Union--------------------	black oak-----------	58	43	northern red oak,
	northern red oak----	62	43	scarlet oak,
	shortleaf pine------	53	86	shortleaf pine,
	white oak-----------	50	43	white oak
W:				
Water--------------------	---	---	---	---
WdB2:				
Weller-------------------	white oak-----------	55	43	black walnut, eastern white pine, red pine, sugar maple
We:				
Lowassie----------------	pin oak-------------	50	29	black oak, green ash, pin oak
	post oak------------	45	29	
WfB2:				
Winfield----------------	black oak-----------	65	43	black oak, eastern white pine, green ash, northern red oak, tuliptree
	northern red oak----	60	43	
	white oak-----------	65	43	

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
WfC2:				
Winfield-----------------	black oak-----------	65	43	black oak, eastern
	northern red oak----	60	43	white pine, green
	white oak-----------	65	43	ash, northern red
				oak, tuliptree
WfD2:				
Winfield-----------------	black oak-----------	65	43	black oak, eastern
	northern red oak----	60	43	white pine, green
	white oak-----------	65	43	ash, northern red
				oak, tuliptree
WfF2:				
Winfield-----------------	black oak-----------	65	43	black oak, eastern
	northern red oak----	60	43	white pine, green
	white oak-----------	65	43	ash, northern red
				oak, tuliptree
WtB:				
Winfield-----------------	black oak-----------	65	43	black oak, eastern
	northern red oak----	60	43	white pine, green
	white oak-----------	65	43	ash, northern red
				oak, tuliptree
WtB2:				
Winfield-----------------	black oak-----------	65	43	black oak, eastern
	northern red oak----	60	43	white pine, green
	white oak-----------	65	43	ash, northern red
				oak, tuliptree

Moniteau County, Missouri
Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
WtC2:				
Winfield----------------	black oak-----------	65	43	black oak, eastern
	northern red oak----	60	43	white pine, green
	white oak-----------	65	43	ash, northern red
				oak, tuliptree